EDS-405A/408A-PN Series

5 and 8-port managed Ethernet switches with PROFINET enabled

> PROFINET enabled by default
> PROFINET I/O parameters, I/O cyclic data, DCP, DHCP, fully compatible with PROFINET Real-Time
> PROFINET GSD file, SIMATIC STEP 7 device icons are included
> Port mirroring, QoS, IEEE 802.1Q VLAN, and port-based VLAN supported

Turbo Ring — Self-Healing Ethernet
Turbo Chain — Beyond Redundant Ring
PI CERTIFIED — PROFIBUS + PROFINET
EN 50121
NEMA TS2

: Introduction

The EDS-405A/408A-PN are 5 and 8-port managed Ethernet switches with PROFINET enabled. With embedded PROFINET, the PN switches can be easily integrated into the Simatic Step 7 engineering tool. It is more convenient for automation engineers to configure through Step 7 and monitor with automation HMIs. The EDS-405A/408A-PN switches with fast booting, Turbo Ring and Turbo Chain fast-recovery technology, can optimize PROFINET network performance. Moxa's PROFINET switches also support a variety of useful management functions, such as IGMP snooping, IEEE 802.1Q VLAN, QoS, port mirroring, SNMP, bandwidth management, and warning by email or relay.

Features and Benefits

- Command Line Interface (CLI) for quickly configuring major managed functions
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- DHCP Option 82 for IP address assignment with different policies
- Support EtherNet/IP and Modbus/TCP protocols for device management and monitoring
- PROFINET v2 conformance class B, GSD (General Station Description) v2, and SIMATIC STEP 7 device icons are available
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), and RSTP/STP for network redundancy

- IGMP snooping and GMRP for filtering multicast traffic
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- QoS (IEEE 802.1p and TOS/DiffServ) to increase determinism
- RMON for efficient network monitoring and proactive capability
- SNMPv1/v2c/v3 for different levels of network management security
- Bandwidth management to prevent unpredictable network status
- Port mirroring for online debugging

: Specifications

Technology
Standards:
IEEE 802.3 for 10BaseT
IEEE 802.3u for 100BaseT(X)
IEEE 802.3x for Flow Control
IEEE 802.1D-2004 for Spanning Tree Protocol
IEEE 802.1w for Rapid STP
IEEE 802.1p for Class of Service
IEEE 802.1Q for VLAN Tagging
Protocols: IGMPv1/v2, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, TFTP, SNTP, SMTP, RARP, RMON, HTTP, Telnet, Syslog, DHCP Option 66/67/82, BootP, LLDP, PROFINET, EtherNet/IP, Modbus/TCP, IPv6, NTP Server/Client
MIB: MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9
Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties
MAC Table Size: 2 K (EDS-405A-PN), 8 K (EDS-408A-PN)
Packet Buffer Size: 1 Mbit

Interface
RJ45 Ports: 10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
Console Port: RS-232 (RJ45 connector)
DIP Switches: Turbo Ring, Master, Coupler, Reserve

LED Indicators: PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL, 10/100M
Alarm Contact: 1 relay output with current carrying capacity of 1 A @ 24 VDC

Power Requirements
Input Voltage: 24 VDC (12 to 45 VDC), redundant dual inputs
Input Current:
EDS-405A-PN: 0.24 A @ 24 V
EDS-408A-PN: 0.26 A @ 24 V
Overload Current Protection: Present
Connection: 1 removable 6-contact terminal block
Reverse Polarity Protection: Present

Physical Characteristics
Housing: Metal, IP30 protection
Dimensions: 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Packing Size: 19.2 x 16.8 x 9.3 cm
Weight: 650 g
Packing Weight:
EDS-405A-PN series: 1140 g
EDS-408A-PN series: 1220 g
Installation: DIN-rail mounting, wall mounting (with optional kit)

Environmental Limits

Operating Temperature:
Standard Models: 0 to 60°C (32 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

Safety: UL 508, UL 60950-1, CSA C22.2 No. 60950-1, EN 60950-1**
Hazardous Location: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nC IIC
EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A
EMS:
EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3,
EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3,
EN 61000-4-6 (CS) Level 3, EN 61000-4-8
Marine: DNV, GL
Traffic Control: NEMA TS2

Rail Traffic: EN 50121-4*
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
* EDS-405A/408A-PN
** EDS-408A-PN only
Note: Please check Moxa's website for the most up-to-date certification status.

MTBF (mean time between failures)

Time:
EDS-405A-PN Series: 392,000 hrs
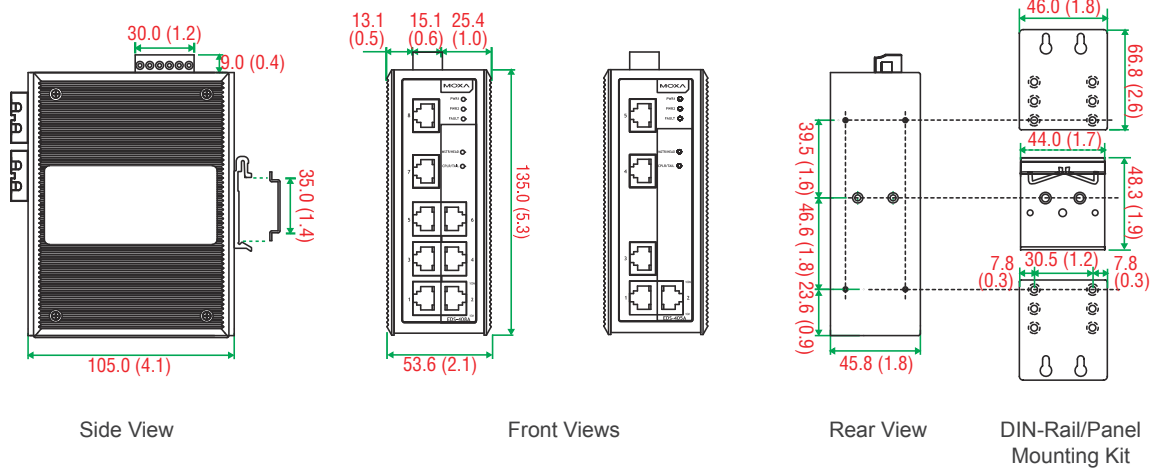EDS-408A-PN Series: 363,000 hrs
Database: Telcordia (Bellcore), GB

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

Side View   Front Views   Rear View   DIN-Rail/Panel Mounting Kit

⁞ Ordering Information

Available Models		Port Interface			
			100BaseFX		
Standard Temperature (0 to 60˚C)	Wide Temperature (-40 to 75˚C)	10/100BaseT(X)	Multi-mode, SC Connector	Multi-mode, ST Connector	Single-mode, SC Connector
EDS-405A/408A-PN	EDS-405A/408A-PN-T	5/8	–	–	–

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes
EDS-SNMP OPC Server Pro: OPC server software that works with all SNMP devices
ABC-01: Configuration backup and restoration tool for managed Ethernet switches, 0 to 60°C operating temperature
DR-4524/75-24/120-24: 45/75/120 W DIN-rail 24 VDC power supplies
MDR-40-24/60-24: 40/60 W DIN-rail 24 VDC power supplies, -20 to 70°C operating temperature
WK-46: Wall mounting kit
RK-4U: 4U-high 19" rack mounting kit

Package Checklist

- EDS-405A-PN or EDS-408A-PN switch
- RJ45 to DB9 console port cable
- Protective caps for unused ports
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card